



# SEQUENCE LISTING

<110> Doweiko, Arthur M.P.  
Nadler, Steven G.

<120> Compositions and Methods Involving Nuclear Hormone Receptor Site II

<130> D0250 NP

<140> 10/621,807  
<141> 2003-07-17

<150> 60/396,907  
<151> 2002-07-18

<160> 21

<170> PatentIn version 3.3

<210> 1  
<211> 255  
<212> PRT  
<213> Homo sapiens

<400> 1

Ala Thr Leu Pro Gln Leu Thr Pro Thr Leu Val Ser Leu Leu Glu Val  
1 5 10 15

Ile Glu Pro Glu Val Leu Tyr Ala Gly Tyr Asp Ser Ser Val Pro Asp  
20 25 30

Ser Thr Trp Arg Ile Met Thr Thr Leu Asn Met Leu Gly Gly Arg Gln  
35 40 45

Val Ile Ala Ala Val Lys Trp Ala Lys Ala Ile Pro Gly Phe Arg Asn  
50 55 60

Leu His Leu Asp Asp Gln Met Thr Leu Leu Gln Tyr Ser Trp Met Phe  
65 70 75 80

Leu Met Ala Phe Ala Leu Gly Trp Arg Ser Tyr Arg Gln Ser Ser Ala  
85 90 95

Asn Leu Leu Cys Phe Ala Pro Asp Leu Ile Ile Asn Glu Gln Arg Met  
100 105 110

Thr Leu Pro Cys Met Tyr Asp Gln Cys Lys His Met Leu Tyr Val Ser  
115 120 125

Ser Glu Leu His Arg Leu Gln Val Ser Tyr Glu Glu Tyr Leu Cys Met  
130 135 140

Lys Thr Leu Leu Leu Leu Ser Ser Val Pro Lys Asp Gly Leu Lys Ser  
145 150 155 160

Gln Glu Leu Phe Asp Glu Ile Arg Met Thr Tyr Ile Lys Glu Leu Gly  
165 170 175

Lys Ala Ile Val Lys Arg Glu Gly Asn Ser Ser Gln Asn Trp Gln Arg  
180 185 190

Phe Tyr Gln Leu Thr Lys Leu Leu Asp Ser Met His Glu Val Val Glu  
195 200 205

Asn Leu Leu Asn Tyr Cys Phe Gln Thr Phe Leu Asp Lys Thr Met Ser  
210 215 220

Ile Glu Phe Pro Glu Met Leu Ala Glu Ile Ile Thr Asn Gln Ile Pro  
225 230 235 240

Lys Tyr Ser Asn Gly Asn Ile Lys Lys Leu Leu Phe His Gln Lys  
245 250 255

<210> 2  
<211> 251  
<212> PRT  
<213> Homo sapiens

<400> 2

Gln Leu Ile Pro Pro Leu Ile Asn Leu Leu Met Ser Ile Glu Pro Asp  
1 5 10 15

Val Ile Tyr Ala Gly His Asp Asn Thr Lys Pro Asp Thr Ser Ser Ser  
20 25 30

Leu Leu Thr Ser Leu Asn Gln Leu Gly Glu Arg Gln Leu Leu Ser Val  
35 40 45

Val Lys Trp Ser Lys Ser Leu Pro Gly Phe Arg Asn Leu His Ile Asp  
50 55 60

Asp Gln Ile Thr Leu Ile Gln Tyr Ser Trp Met Ser Leu Met Val Phe  
65 70 75 80

Gly Leu Gly Trp Arg Ser Tyr Lys His Val Ser Gly Gln Met Leu Tyr  
85 90 95

Phe Ala Pro Asp Leu Ile Leu Asn Glu Gln Arg Met Lys Glu Ser Ser  
100 105 110

Phe Tyr Ser Leu Cys Leu Thr Met Trp Gln Ile Pro Gln Glu Phe Val  
115 120 125

Lys Leu Gln Val Ser Gln Glu Glu Phe Leu Cys Met Lys Val Leu Leu  
130 135 140

Leu Leu Asn Thr Ile Pro Leu Glu Gly Leu Arg Ser Gln Thr Gln Phe  
145 150 155 160

Glu Glu Met Arg Ser Ser Tyr Ile Arg Glu Leu Ile Lys Ala Ile Gly  
165 170 175

Leu Arg Gln Lys Gly Val Val Ser Ser Ser Gln Arg Phe Tyr Gln Leu  
180 185 190

Thr Lys Leu Leu Asp Asn Leu His Asp Leu Val Lys Gln Leu His Leu  
195 200 205

Tyr Cys Leu Asn Thr Phe Ile Gln Ser Arg Ala Leu Ser Val Glu Phe  
210 215 220

Pro Glu Met Met Ser Glu Val Ile Ala Ala Gln Leu Pro Lys Ile Leu  
225 230 235 240

Ala Gly Met Val Lys Pro Leu Leu Phe His Lys  
245 250

<210> 3  
<211> 238  
<212> PRT  
<213> Homo sapiens

<400> 3

Ser Ala Asn Glu Asp Met Pro Val Glu Arg Ile Leu Glu Ala Glu Leu  
1 5 10 15



<210> 4  
 <211> 238  
 <212> PRT  
 <213> Homo sapiens  
 <400> 4

Leu Ser Pro Gln Leu Glu Glu Leu Ile Thr Lys Val Ser Lys Ala His  
 1 5 10 15

Gln Glu Thr Phe Pro Ser Leu Cys Gln Leu Gly Lys Tyr Thr Thr Asn  
 20 25 30

Ser Ser Ala Asp His Arg Val Gln Leu Asp Leu Gly Leu Trp Asp Lys  
 35 40 45

Phe Ser Glu Leu Ala Thr Lys Cys Ile Ile Lys Ile Val Glu Phe Ala  
 50 55 60

Lys Arg Leu Pro Gly Phe Thr Gly Leu Ser Ile Ala Asp Gln Ile Thr  
 65 70 75 80

Leu Leu Lys Ala Ala Cys Leu Asp Ile Leu Met Leu Arg Ile Cys Thr  
 85 90 95

Arg Tyr Thr Pro Glu Gln Asp Thr Met Thr Phe Ser Asp Gly Leu Thr  
 100 105 110

Leu Asn Arg Thr Gln Met His Asn Ala Gly Phe Gly Pro Leu Thr Asp  
 115 120 125

Leu Val Phe Ala Phe Ala Gly Gln Leu Leu Pro Leu Glu Met Asp Asp  
 130 135 140

Thr Glu Thr Gly Leu Leu Ser Ala Ile Cys Leu Ile Cys Gly Asp Arg  
 145 150 155 160

Met Asp Leu Glu Glu Pro Glu Lys Val Asp Lys Leu Gln Glu Pro Leu  
 165 170 175

Leu Glu Ala Leu Arg Leu Tyr Ala Arg Arg Arg Arg Pro Ser Gln Pro  
 180 185 190

Tyr Met Phe Pro Arg Met Leu Met Lys Ile Thr Asp Leu Arg Gly Ile

195

200

205

Ser Thr Lys Gly Ala Glu Arg Ala Ile Thr Leu Lys Met Glu Ile Pro  
 210 215 220

Gly Pro Met Pro Pro Leu Ile Arg Glu Met Leu Glu Asn Pro  
 225 230 235

&lt;210&gt; 5

&lt;211&gt; 251

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5

Gln Leu Ile Pro Pro Leu Ile Asn Leu Leu Met Ser Ile Glu Pro Asp  
 1 5 10 15

Val Ile Tyr Ala Gly His Asp Asn Thr Lys Pro Asp Thr Ser Ser Ser  
 20 25 30

Leu Leu Thr Ser Leu Asn Gln Leu Gly Glu Arg Gln Leu Leu Ser Val  
 35 40 45

Val Lys Trp Ser Lys Ser Leu Pro Gly Phe Arg Asn Leu His Ile Asp  
 50 55 60

Asp Gln Ile Thr Leu Ile Gln Tyr Ser Trp Met Ser Leu Met Val Phe  
 65 70 75 80

Gly Leu Gly Trp Arg Ser Tyr Lys His Val Ser Gly Gln Met Leu Tyr  
 85 90 95

Phe Ala Pro Asp Leu Ile Leu Asn Glu Gln Arg Met Lys Glu Ser Ser  
 100 105 110

Phe Tyr Ser Leu Cys Leu Thr Met Trp Gln Ile Pro Gln Glu Phe Val  
 115 120 125

Lys Leu Gln Val Ser Gln Glu Glu Phe Leu Cys Met Lys Val Leu Leu  
 130 135 140

Leu Leu Asn Thr Ile Pro Leu Glu Gly Leu Arg Ser Gln Thr Gln Phe  
 145 150 155 160

Glu Glu Met Arg Ser Ser Tyr Ile Arg Glu Leu Ile Lys Ala Ile Gly  
165 170 175

Leu Arg Gln Lys Gly Val Val Ser Ser Ser Gln Arg Phe Tyr Gln Leu  
180 185 190

Thr Lys Leu Leu Asp Asn Leu His Asp Leu Val Lys Gln Leu His Leu  
195 200 205

Tyr Cys Leu Asn Thr Phe Ile Gln Ser Arg Ala Leu Ser Val Glu Phe  
210 215 220

Pro Glu Met Met Ser Glu Val Ile Ala Ala Gln Leu Pro Lys Ile Leu  
225 230 235 240

Ala Gly Met Val Lys Pro Leu Leu Phe His Lys  
245 250

<210> 6  
<211> 250  
<212> PRT  
<213> Homo sapiens

<400> 6

Cys Gln Pro Ile Phe Leu Asn Val Leu Glu Ala Ile Glu Pro Gly Val  
1 5 10 15

Val Cys Ala Gly His Asp Asn Asn Gln Pro Asp Ser Phe Ala Ala Leu  
20 25 30

Leu Ser Ser Leu Asn Glu Leu Gly Glu Arg Gln Leu Val His Val Val  
35 40 45

Lys Trp Ala Lys Ala Leu Pro Gly Phe Arg Asn Leu His Val Asp Asp  
50 55 60

Gln Met Ala Val Ile Gln Tyr Ser Trp Met Gly Leu Met Val Phe Ala  
65 70 75 80

Met Gly Trp Arg Ser Phe Thr Asn Val Asn Ser Arg Met Leu Tyr Phe  
85 90 95

Ala Pro Asp Leu Val Phe Asn Glu Tyr Arg Met His Lys Ser Arg Met

100	105	110
Tyr Ser Gln Cys Val Arg Met Arg His Leu Ser Gln Glu Phe Gly Trp		
115	120	125
Leu Gln Ile Thr Pro Gln Glu Phe Leu Cys Met Lys Ala Leu Leu Leu		
130	135	140
Phe Ser Ile Ile Pro Val Asp Gly Leu Lys Asn Gln Lys Phe Phe Asp		
145	150	155
		160
Glu Leu Arg Met Asn Tyr Ile Lys Glu Leu Asp Arg Ile Ile Ala Cys		
	165	170
		175
Lys Arg Lys Asn Pro Thr Ser Cys Ser Arg Arg Phe Tyr Gln Leu Thr		
	180	185
		190
Lys Leu Leu Asp Ser Val Gln Pro Ile Ala Arg Glu Leu His Gln Phe		
	195	200
		205
Thr Phe Asp Leu Leu Ile Lys Ser His Met Val Ser Val Asp Phe Pro		
	210	215
		220
Glu Met Met Ala Glu Ile Ile Ser Val Gln Val Pro Lys Ile Leu Ser		
225	230	235
		240
Gly Lys Val Lys Pro Ile Tyr Phe His Thr		
	245	250
<210> 7		
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<212> PRT		
<213> Homo sapiens		
<400> 7		
Ser Leu Ala Leu Ser Leu Thr Ala Asp Gln Met Val Ser Ala Leu Leu		
1	5	10
		15
Asp Ala Glu Pro Pro Ile Leu Tyr Ser Glu Tyr Asp Pro Thr Arg Pro		
	20	25
		30
Phe Ser Glu Ala Ser Met Met Gly Leu Leu Thr Asn Leu Ala Asp Arg		
35	40	45



Glu Leu Val His Met Ile Asn Trp Ala Lys Arg Val Pro Gly Phe Val  
50 55 60

Asp Leu Thr Leu His Asp Gln Val His Leu Leu Glu Cys Ala Trp Leu  
65 70 75 80

Glu Ile Leu Met Ile Gly Leu Val Trp Arg Ser Met Glu His Pro Gly  
85 90 95

Lys Leu Leu Phe Ala Pro Asn Leu Leu Leu Asp Arg Asn Gln Gly Lys  
100 105 110

Cys Val Glu Gly Met Val Glu Ile Phe Asp Met Leu Leu Ala Thr Ser  
115 120 125

Ser Arg Phe Arg Met Met Asn Leu Gln Gly Glu Glu Phe Val Cys Leu  
130 135 140

Lys Ser Ile Ile Leu Leu Asn Ser Gly Val Tyr Thr Phe Leu Ser Ser  
145 150 155 160

Thr Leu Lys Ser Leu Glu Glu Lys Asp His Ile His Arg Val Leu Asp  
165 170 175

Lys Ile Thr Asp Thr Leu Ile His Leu Met Ala Lys Ala Gly Leu Thr  
180 185 190

Leu Gln Gln Gln His Glu Arg Leu Ala Gln Leu Leu Leu Ile Leu Ser  
195 200 205

His Ile Arg His Met Ser Asn Lys Gly Met Glu His Leu Tyr Ser Met  
210 215 220

Lys Cys Lys Asn Val Val Pro Leu Tyr Asp Leu Leu Leu Glu Met Leu  
225 230 235 240

<210> 8  
<211> 232  
<212> PRT  
<213> Homo sapiens

<400> 8

Asp Ala Leu Ser Pro Glu Gln Leu Val Leu Thr Leu Leu Glu Ala Glu

1		5		10		15													
Pro	Pro	His	Val	Leu	Ile	Ser	Arg	Thr	Glu	Ala	Ser	Met	Met	Met	Ser				
			20					25					30						
Leu	Thr	Lys	Leu	Ala	Asp	Lys	Glu	Leu	Val	His	Met	Ile	Ser	Trp	Ala				
		35					40					45							
Lys	Lys	Ile	Pro	Gly	Phe	Val	Glu	Leu	Ser	Leu	Phe	Asp	Gln	Val	Arg				
	50					55					60								
Leu	Leu	Glu	Ser	Cys	Trp	Met	Glu	Val	Leu	Met	Met	Gly	Leu	Met	Trp				
65					70					75					80				
Arg	Ser	Ile	Asp	His	Pro	Gly	Lys	Leu	Ile	Phe	Ala	Pro	Asp	Leu	Val				
				85					90					95					
Leu	Asp	Arg	Asp	Glu	Gly	Lys	Cys	Val	Glu	Gly	Ile	Leu	Glu	Ile	Phe				
			100					105					110						
Asp	Met	Leu	Leu	Ala	Thr	Thr	Ser	Arg	Phe	Arg	Glu	Leu	Lys	Leu	Gln				
		115					120					125							
His	Lys	Glu	Tyr	Leu	Cys	Val	Lys	Ala	Met	Ile	Leu	Leu	Asn	Ser	Leu				
	130					135					140								
Val	Thr	Ala	Thr	Gln	Asp	Ala	Asp	Ser	Ser	Arg	Lys	Leu	Ala	His	Leu				
145					150					155					160				
Leu	Asn	Ala	Val	Thr	Asp	Ala	Leu	Val	Trp	Val	Ile	Ala	Lys	Ser	Gly				
				165					170					175					
Ile	Ser	Ser	Gln	Gln	Gln	Ser	Met	Arg	Leu	Ala	Asn	Leu	Leu	Met	Leu				
			180					185					190						
Leu	Ser	His	Val	Arg	His	Ala	Ser	Asn	Lys	Gly	Met	Glu	His	Leu	Leu				
		195					200					205							
Asn	Met	Lys	Cys	Lys	Asn	Val	Val	Pro	Val	Tyr	Asp	Leu	Leu	Leu	Glu				
	210					215					220								
Met	Leu	Asn	Ala	His	Val	Leu	Arg												
225					230														

<210> 9  
 <211> 250  
 <212> PRT  
 <213> Homo sapiens

<400> 9

Leu Arg Pro Lys Leu Ser Glu Glu Gln Gln Arg Ile Ile Ala Ile Leu  
 1 5 10 15

Leu Asp Ala His His Lys Thr Tyr Asp Pro Thr Tyr Ser Asp Phe Cys  
 20 25 30

Gln Phe Arg Pro Pro Val Arg Val Asn Asp Gly Gly Gly Ser Val Thr  
 35 40 45

Leu Glu Leu Ser Gln Leu Ser Met Leu Pro His Leu Ala Asp Leu Val  
 50 55 60

Ser Tyr Ser Ile Gln Lys Val Ile Gly Phe Ala Lys Met Ile Pro Gly  
 65 70 75 80

Phe Arg Asp Leu Thr Ser Glu Asp Gln Ile Val Leu Leu Lys Ser Ser  
 85 90 95

Ala Ile Glu Val Ile Met Leu Arg Ser Asn Glu Ser Phe Thr Met Asp  
 100 105 110

Asp Met Ser Trp Thr Cys Gly Asn Gln Asp Tyr Lys Tyr Arg Val Ser  
 115 120 125

Asp Val Thr Lys Ala Gly His Ser Leu Glu Leu Ile Glu Pro Leu Ile  
 130 135 140

Lys Phe Gln Val Gly Leu Lys Lys Leu Asn Leu His Glu Glu Glu His  
 145 150 155 160

Val Leu Leu Met Ala Ile Cys Ile Val Ser Pro Asp Arg Pro Gly Val  
 165 170 175

Gln Asp Ala Ala Leu Ile Glu Ala Ile Gln Asp Arg Leu Ser Asn Thr  
 180 185 190

Leu Gln Thr Tyr Ile Arg Cys Arg His Pro Pro Pro Leu Leu Tyr Ala  
195 200 205

Lys Met Ile Gln Lys Leu Ala Asp Leu Arg Ser Leu Asn Glu Glu His  
210 215 220

Ser Lys Gln Tyr Arg Cys Leu Ser Phe Gln Pro Glu Cys Ser Met Lys  
225 230 235 240

Leu Thr Pro Leu Val Leu Glu Val Phe Gly  
245 250

<210> 10  
<211> 271  
<212> PRT  
<213> Homo sapiens

<400> 10

Glu Ser Ala Asp Leu Arg Ala Leu Ala Lys His Leu Tyr Asp Ser Tyr  
1 5 10 15

Ile Lys Ser Phe Pro Leu Thr Lys Ala Lys Ala Arg Ala Ile Leu Thr  
20 25 30

Gly Lys Thr Thr Asp Lys Ser Pro Phe Val Ile Tyr Asp Met Asn Ser  
35 40 45

Leu Met Met Gly Glu Asp Lys Ile Lys Phe Lys His Ile Thr Pro Leu  
50 55 60

Gln Glu Gln Ser Lys Glu Val Ala Ile Arg Ile Phe Gln Gly Cys Gln  
65 70 75 80

Phe Arg Ser Val Glu Ala Val Gln Glu Ile Thr Glu Tyr Ala Lys Ser  
85 90 95

Ile Pro Gly Phe Val Asn Leu Asp Leu Asn Asp Gln Val Thr Leu Leu  
100 105 110

Lys Tyr Gly Val His Glu Ile Ile Tyr Thr Met Leu Ala Ser Leu Met  
115 120 125

Asn Lys Asp Gly Val Leu Ile Ser Glu Gly Gln Gly Phe Met Thr Arg  
130 135 140

Glu Phe Leu Lys Ser Leu Arg Lys Pro Phe Gly Asp Phe Met Glu Pro  
 145 150 155 160

Lys Phe Glu Phe Ala Val Lys Phe Asn Ala Leu Glu Leu Asp Asp Ser  
 165 170 175

Asp Leu Ala Ile Phe Ile Ala Val Ile Ile Leu Ser Gly Asp Arg Pro  
 180 185 190

Gly Leu Leu Asn Val Lys Pro Ile Glu Asp Ile Gln Asp Asn Leu Leu  
 195 200 205

Gln Ala Leu Glu Leu Gln Leu Lys Leu Asn His Pro Glu Ser Ser Gln  
 210 215 220

Leu Phe Ala Lys Leu Leu Gln Lys Met Thr Asp Leu Arg Gln Ile Val  
 225 230 235 240

Thr Glu His Val Gln Leu Leu Gln Val Ile Lys Lys Thr Glu Thr Asp  
 245 250 255

Met Ser Leu His Pro Leu Leu Gln Glu Ile Tyr Lys Asp Leu Tyr  
 260 265 270

<210> 11  
 <211> 254  
 <212> PRT  
 <213> Homo sapiens

<400> 11

Ser Arg Ala Leu Thr Pro Ser Pro Val Met Val Leu Glu Asn Ile Glu  
 1 5 10 15

Pro Glu Ile Val Tyr Ala Gly Tyr Asp Ser Ser Lys Pro Asp Thr Ala  
 20 25 30

Glu Asn Leu Leu Ser Thr Leu Asn Arg Leu Ala Gly Lys Gln Met Ile  
 35 40 45

Gln Val Val Lys Trp Ala Lys Val Leu Pro Gly Phe Lys Asn Leu Pro  
 50 55 60

Leu Glu Asp Gln Ile Thr Leu Ile Gln Tyr Ser Trp Met Cys Leu Ser  
65 70 75 80

Ser Phe Ala Leu Ser Trp Arg Ser Tyr Lys His Thr Asn Ser Gln Phe  
85 90 95

Leu Tyr Phe Ala Pro Asp Leu Val Phe Asn Glu Glu Lys Met His Gln  
100 105 110

Ser Ala Met Tyr Glu Leu Cys Gln Gly Met His Gln Ile Ser Leu Gln  
115 120 125

Phe Val Arg Leu Gln Leu Thr Phe Glu Glu Tyr Thr Ile Met Lys Val  
130 135 140

Leu Leu Leu Leu Ser Thr Ile Pro Lys Asp Gly Leu Lys Ser Gln Ala  
145 150 155 160

Ala Phe Glu Glu Met Arg Thr Asn Tyr Ile Lys Glu Leu Arg Lys Met  
165 170 175

Val Thr Lys Cys Pro Asn Asn Ser Gly Gln Ser Trp Gln Arg Phe Tyr  
180 185 190

Gln Leu Thr Lys Leu Leu Asp Ser Met His Asp Leu Val Ser Asp Leu  
195 200 205

Leu Glu Phe Cys Phe Tyr Thr Phe Arg Glu Ser His Ala Leu Lys Val  
210 215 220

Glu Phe Pro Ala Met Leu Val Glu Ile Ile Ser Asp Gln Leu Pro Lys  
225 230 235 240

Val Glu Ser Gly Asn Ala Lys Pro Leu Tyr Phe His Arg Lys  
245 250

<210> 12  
<211> 242  
<212> PRT  
<213> Homo sapiens

<400> 12

Lys Pro Glu Pro Thr Asp Glu Glu Trp Glu Leu Ile Lys Thr Val Thr  
1 5 10 15



Phe Glu

<210> 13  
<211> 255  
<212> PRT  
<213> Homo sapiens

<400> 13

Ala Thr Leu Pro Gln Leu Thr Pro Thr Leu Val Ser Leu Leu Glu Val  
1 5 10 15

Ile Glu Pro Glu Val Leu Tyr Ala Gly Tyr Asp Ser Ser Val Pro Asp  
20 25 30

Ser Thr Trp Arg Ile Met Thr Thr Leu Asn Met Leu Gly Gly Arg Gln  
35 40 45

Val Ile Ala Ala Val Lys Trp Ala Lys Ala Ile Pro Gly Phe Arg Asn  
50 55 60

Leu His Leu Asp Asp Gln Met Thr Leu Leu Gln Tyr Ser Trp Met Phe  
65 70 75 80

Leu Met Ala Phe Ala Leu Gly Trp Arg Ser Tyr Arg Gln Ser Ser Ala  
85 90 95

Asn Leu Leu Cys Phe Ala Pro Asp Leu Ile Ile Asn Glu Gln Arg Met  
100 105 110

Thr Leu Pro Cys Met Tyr Asp Gln Cys Lys His Met Leu Tyr Val Ser  
115 120 125

Ser Glu Leu His Arg Leu Gln Val Ser Tyr Glu Glu Tyr Leu Cys Met  
130 135 140

Lys Thr Leu Leu Leu Leu Ser Ser Val Pro Lys Asp Gly Leu Lys Ser  
145 150 155 160

Gln Glu Leu Phe Asp Glu Ile Arg Met Thr Tyr Ile Lys Glu Leu Gly  
165 170 175

Lys Ala Ile Val Lys Arg Glu Gly Asn Ser Ser Gln Asn Trp Gln Arg



180	185	190
Phe Tyr Gln Leu Thr Lys Leu Leu Asp Ser Met His Glu Val Val Glu		
195	200	205
Asn Leu Leu Asn Tyr Cys Phe Gln Thr Phe Leu Asp Lys Thr Met Ser		
210	215	220
Ile Glu Phe Pro Glu Met Leu Ala Glu Ile Ile Thr Asn Gln Ile Pro		
225	230	235 240
Lys Tyr Ser Asn Gly Asn Ile Lys Lys Leu Leu Phe His Gln Lys		
	245	250 255
<210> 14		
<211> 777		
<212> PRT		
<213> Saimiri boliviensis		
<400> 14		
Met Asp Ser Lys Glu Ser Leu Thr Pro Gly Lys Glu Glu Asn Pro Ser		
1	5	10 15
Ser Val Leu Thr Gln Glu Arg Gly Asn Val Met Asp Phe Cys Lys Ile		
	20	25 30
Leu Arg Gly Gly Ala Thr Leu Lys Val Ser Val Ser Ser Thr Ser Leu		
	35	40 45
Ala Ala Ala Ser Gln Ser Asp Ser Lys Gln Gln Arg Leu Leu Val Asp		
	50	55 60
Phe Pro Lys Gly Ser Val Ser Asn Ala Gln Gln Pro Asp Leu Ser Lys		
65	70	75 80
Ala Val Ser Leu Ser Met Gly Leu Tyr Met Gly Glu Thr Glu Thr Lys		
	85	90 95
Val Met Gly Asn Asp Leu Gly Phe Pro Gln Gln Gly Gln Ile Ser Leu		
	100	105 110
Ser Ser Gly Glu Thr Asp Leu Gln Leu Leu Glu Glu Ser Ile Ala Asn		
	115	120 125





580					585					590					
Met	Thr	Leu	Leu	Gln	Tyr	Ser	Trp	Met	Phe	Leu	Met	Ala	Phe	Ala	Leu
		595					600					605			
Gly	Trp	Arg	Ser	Tyr	Arg	Gln	Ala	Ser	Ser	Asn	Leu	Leu	Cys	Phe	Ala
	610					615					620				
Pro	Asp	Leu	Ile	Ile	Asn	Glu	Gln	Arg	Met	Thr	Leu	Pro	Cys	Met	Tyr
625					630					635					640
Asp	Gln	Cys	Lys	His	Met	Leu	Tyr	Val	Ser	Ser	Glu	Leu	His	Arg	Leu
				645					650					655	
Gln	Val	Ser	Tyr	Glu	Glu	Tyr	Leu	Cys	Met	Lys	Thr	Leu	Leu	Leu	Leu
			660					665					670		
Ser	Ser	Val	Pro	Lys	Asp	Gly	Leu	Lys	Ser	Gln	Glu	Leu	Phe	Asp	Glu
		675					680					685			
Ile	Arg	Met	Thr	Tyr	Ile	Lys	Glu	Leu	Gly	Lys	Ala	Ile	Val	Lys	Arg
	690					695					700				
Glu	Gly	Asn	Ser	Ser	Gln	Asn	Trp	Gln	Arg	Phe	Tyr	Gln	Leu	Thr	Lys
705					710					715					720
Leu	Leu	Asp	Ser	Met	His	Glu	Val	Val	Glu	Asn	Leu	Leu	Asn	Tyr	Cys
				725					730					735	
Phe	Gln	Thr	Phe	Leu	Asp	Lys	Thr	Met	Ser	Ile	Glu	Phe	Pro	Glu	Met
			740					745					750		
Leu	Ala	Glu	Ile	Ile	Thr	Asn	Gln	Leu	Pro	Lys	Tyr	Ser	Asn	Gly	Asn
		755					760					765			
Ile	Lys	Lys	Leu	Leu	Phe	His	Gln	Lys							
	770					775									

<210> 15  
 <211> 703  
 <212> PRT  
 <213> Sus scrofa  
 <400> 15

Val	Ser	Ala	Ser	Ser	Pro	Ser	Leu	Ala	Ala	Val	Ser	Gln	Pro	Asp	Ser	1	5	10	15
Lys	Gln	Gln	Arg	Leu	Ala	Val	Asp	Phe	Pro	Lys	Gly	Ser	Gly	Ser	Asn	20	25	30	
Ala	Gln	Gln	Pro	Asp	Leu	Ser	Lys	Ala	Val	Ser	Leu	Ser	Met	Gly	Leu	35	40	45	
Tyr	Met	Gly	Glu	Thr	Glu	Thr	Lys	Val	Met	Gly	Ser	Asp	Leu	Gly	Phe	50	55	60	
Pro	Gln	Gln	Gly	Gln	Ile	Ser	Leu	Ser	Ser	Gly	Glu	Thr	Asp	Phe	Arg	65	70	75	80
Leu	Leu	Glu	Glu	Ser	Ile	Ala	Asn	Leu	Ser	Arg	Ser	Thr	Ser	Val	Pro	85	90	95	
Glu	Asn	Pro	Lys	Ser	Ser	Ala	Ser	Ala	Ala	Gly	Pro	Ala	Ala	Pro	Ala	100	105	110	
Glu	Lys	Ala	Phe	Pro	Lys	Thr	His	Ser	Asp	Gly	Ala	Pro	Glu	Gln	Pro	115	120	125	
Asn	Val	Lys	Gly	Gln	Thr	Gly	Thr	Asn	Gly	Gly	Asn	Val	Lys	Leu	Phe	130	135	140	
Thr	Thr	Asp	Gln	Ser	Thr	Phe	Asp	Ile	Trp	Arg	Lys	Lys	Leu	Gln	Asp	145	150	155	160
Leu	Glu	Leu	Pro	Ser	Gly	Ser	Pro	Gly	Lys	Glu	Thr	Ser	Glu	Ser	Pro	165	170	175	
Trp	Ser	Ser	Asp	Leu	Leu	Ile	Asp	Glu	Asn	Cys	Leu	Leu	Ser	Pro	Leu	180	185	190	
Ala	Gly	Glu	Glu	Asp	Pro	Phe	Leu	Leu	Glu	Gly	Ser	Ser	Thr	Glu	Asp	195	200	205	
Cys	Lys	Pro	Leu	Val	Leu	Pro	Asp	Thr	Lys	Pro	Lys	Val	Lys	Asp	Asn	210	215	220	

Gly	Glu	Leu	Ile	Leu	Pro	Ser	Pro	Asn	Ser	Val	Pro	Leu	Pro	Gln	Val	225	230	235	240
Lys	Thr	Glu	Lys	Glu	Asp	Phe	Ile	Glu	Leu	Cys	Thr	Pro	Gly	Val	Ile	245	250	255	
Lys	Gln	Glu	Lys	Leu	Gly	Pro	Ala	Tyr	Cys	Gln	Ala	Ser	Phe	Ser	Gly	260	265	270	
Ala	Asn	Ile	Ile	Gly	Gly	Lys	Met	Ser	Ala	Ile	Ser	Val	His	Gly	Val	275	280	285	
Ser	Thr	Ser	Gly	Gly	Gln	Leu	Tyr	His	Tyr	Asp	Met	Asn	Thr	Ala	Ala	290	295	300	
Ser	Leu	Ser	Lys	Gln	Gln	Glu	Gln	Lys	Pro	Leu	Phe	Asn	Val	Ile	Pro	305	310	315	320
Pro	Ile	Pro	Val	Gly	Ser	Glu	Asn	Trp	Asn	Arg	Cys	Gln	Gly	Ser	Gly	325	330	335	
Asp	Asp	Asn	Leu	Thr	Ser	Leu	Gly	Thr	Leu	Asn	Phe	Ser	Gly	Arg	Ser	340	345	350	
Val	Phe	Ser	Asn	Gly	Tyr	Ser	Ser	Pro	Gly	Met	Arg	Pro	Asp	Val	Ser	355	360	365	
Ser	Pro	Pro	Ser	Ser	Ser	Ser	Ala	Ala	Thr	Gly	Pro	Pro	Pro	Lys	Leu	370	375	380	
Cys	Leu	Val	Cys	Ser	Asp	Glu	Ala	Ser	Gly	Cys	His	Tyr	Gly	Val	Leu	385	390	395	400
Thr	Cys	Gly	Ser	Cys	Lys	Val	Phe	Phe	Lys	Arg	Ala	Val	Glu	Gly	Gln	405	410	415	
His	Asn	Tyr	Leu	Cys	Ala	Gly	Arg	Asn	Asp	Cys	Ile	Ile	Asp	Lys	Ile	420	425	430	
Arg	Arg	Lys	Asn	Cys	Pro	Ala	Cys	Arg	Tyr	Arg	Lys	Cys	Leu	Gln	Ala	435	440	445	
Gly	Met	Asn	Leu	Glu	Ala	Arg	Lys	Thr	Lys	Lys	Lys	Ile	Lys	Gly	Ile				

450		455		460
Gln 465	Gln	Ala	Thr	Thr
		Gly 470	Val	Ser
	Gln	Glu	Thr 475	Ser
	Glu	Asn	Ser	Ala 480
Asn	Lys	Thr	Ile	Val
		Pro 485	Ala	Thr
	Leu	Pro 490	Gln	Leu
	Thr	Pro	Thr 495	Leu
Val	Ser	Leu	Leu	Glu
		Val 500	Ile	Glu
			Pro 505	Glu
	Val	Leu	Tyr	Ala
			Ala 510	Gly
			Tyr	
Asp	Ser	Ser	Ile	Pro
		515	Asp	Ser
			Thr 520	Trp
			Arg	Ile
			Met	Thr
			Ala 525	Leu
			Asn	
Met	Leu	Gly	Gly	Arg
		530	Gln	Val
			535	Ile
			Ala	Ala
			Val	Lys
			540	Trp
			Ala	Lys
			Ala	
Ile	Pro	Gly	Phe	Arg
545			Asn	Leu
			550	His
			Leu	Asp
			Asp	Gln
			Met	Thr
			Leu	Leu
			560	
Gln	Tyr	Ser	Trp	Met
			565	Phe
			Leu	Met
			Val	Phe
			570	Ala
			Leu	Gly
			Trp	Arg
			575	Ser
Tyr	Arg	Gln	Ser	Ser
		580	Ala	Ser
			Leu	Leu
			585	Cys
			Phe	Ala
			Pro	Asp
			590	Leu
			Val	
Ile	Asn	Glu	Gln	Arg
		595	Met	Ala
			Leu	Pro
			600	Cys
			Met	Tyr
			Asp	Gln
			605	Cys
			Arg	
His	Met	Leu	Tyr	Val
		610	Ser	Ser
			615	Glu
			Leu	Gln
			Arg	Leu
			620	Gln
			Val	Ser
			Tyr	
Glu	Glu	Tyr	Leu	Cys
625			Met	Lys
			630	Thr
			Leu	Leu
			635	Leu
			Leu	Ser
			Ser	Val
			640	Pro
Lys	Asp	Gly	Leu	Lys
			645	Ser
			Gln	Glu
			Leu	Phe
			650	Asp
			Glu	Ile
			Arg	Met
			655	Thr
Tyr	Ile	Lys	Glu	Leu
		660	Gly	Lys
			Ala	Ile
			665	Val
			Lys	Arg
			Glu	Gly
			670	Asn
			Ser	
Ser	Gln	Asn	Trp	Gln
		675	Arg	Phe
			Tyr	Gln
			Leu	Thr
			Lys	Leu
			685	Leu
			Asp	Ser

Met His Asp Val Val Glu Asn Leu Leu Asn Tyr Cys Phe Gln Thr  
690 695 700

<210> 16  
<211> 771  
<212> PRT  
<213> *Cavia porcellus*

<400> 16

Met Asp Leu Lys Glu Ser Val Thr Ser Ser Lys Glu Val Pro Ser Ser  
1 5 10 15

Val Leu Gly Ser Glu Arg Arg Asn Val Ile Asp Phe Tyr Lys Thr Val  
20 25 30

Arg Gly Gly Ala Thr Val Lys Val Ser Ala Ser Ser Pro Ser Leu Ala  
35 40 45

Ala Ala Ala Gln Ser Asp Ser Lys Gln Arg Arg Leu Leu Val Asp Phe  
50 55 60

Pro Lys Gly Ser Gly Ser Asn Ala Gln Gln Pro Asp Leu Ser Lys Ala  
65 70 75 80

Val Ser Leu Ser Met Gly Leu Tyr Met Gly Glu Thr Glu Thr Lys Val  
85 90 95

Met Gly Asn Asp Leu Gly Phe Pro Gln Gln Gly Gln Ile Ser Leu Pro  
100 105 110

Ser Gly Glu Thr Asp Phe Arg Leu Leu Glu Glu Ser Ile Ala Asn Leu  
115 120 125

Ser Arg Ser Thr Ser Val Pro Glu Asn Pro Lys Asn Ser Ala Ser Ala  
130 135 140

Val Ser Gly Thr Pro Thr Glu Glu Phe Pro Lys Thr Gln Ser Asp Leu  
145 150 155 160

Ser Ser Glu Gln Glu Asn Leu Lys Ser Gln Ala Gly Thr Asn Gly Gly  
165 170 175



Asn	Val	Lys	Phe	Pro	Pro	Asp	Gln	Ser	Thr	Phe	Asp	Ile	Leu	Lys	Asp	180	185	190	
Leu	Glu	Phe	Ser	Ser	Gly	Ser	Pro	Gly	Lys	Glu	Arg	Ser	Glu	Ser	Pro	195	200	205	
Trp	Arg	Pro	Asp	Leu	Leu	Met	Asp	Glu	Ser	Cys	Leu	Leu	Ser	Pro	Leu	210	215	220	
Ala	Gly	Glu	Asp	Asp	Pro	Phe	Leu	Leu	Glu	Gly	Asn	Ser	Asn	Glu	Asp	225	230	235	240
Cys	Lys	Pro	Leu	Ile	Leu	Pro	Asp	Thr	Lys	Pro	Lys	Ile	Lys	Asp	Asn	245	250	255	
Gly	Asp	Gly	Ile	Leu	Ser	Ser	Ser	Asn	Ser	Val	Pro	Gln	Pro	Gln	Val	260	265	270	
Lys	Ile	Gly	Lys	Glu	Asp	Phe	Ile	Glu	Leu	Cys	Thr	Pro	Gly	Val	Ile	275	280	285	
Lys	Gln	Glu	Lys	Leu	Gly	Pro	Val	Tyr	Cys	Gln	Ala	Ser	Phe	Ser	Gly	290	295	300	
Ala	Asn	Ile	Ile	Gly	Asn	Lys	Met	Ser	Ala	Ile	Ser	Val	His	Gly	Val	305	310	315	320
Ser	Thr	Ser	Gly	Gly	Gln	Met	Tyr	His	Tyr	Asp	Met	Asn	Thr	Ala	Ser	325	330	335	
Leu	Ser	Gln	Gln	Gln	Asp	Gln	Lys	Pro	Ile	Phe	Asn	Val	Ile	Pro	Pro	340	345	350	
Ile	Pro	Val	Gly	Ser	Glu	Asn	Trp	Asn	Arg	Cys	Gln	Gly	Ser	Gly	Glu	355	360	365	
Asp	Asn	Leu	Thr	Ser	Leu	Gly	Thr	Val	Asn	Phe	Pro	Gly	Arg	Ser	Val	370	375	380	
Phe	Ser	Asn	Gly	Tyr	Ser	Ser	Pro	Gly	Leu	Arg	Pro	Asp	Val	Ser	Ser	385	390	395	400
Pro	Pro	Ser	Ser	Ser	Ser	Thr	Thr	Thr	Gly	Pro	Pro	Pro	Lys	Leu	Cys				

405					410					415					
Leu	Val	Cys	Ser	Asp	Glu	Leu	Ser	Gly	Cys	His	Tyr	Gly	Val	Leu	Thr
			420					425					430		
Cys	Gly	Ser	Cys	Lys	Val	Phe	Phe	Lys	Arg	Ala	Val	Glu	Gly	Gln	His
		435					440					445			
Asn	Tyr	Leu	Cys	Ala	Gly	Arg	Asn	Asp	Cys	Ile	Ile	Asp	Lys	Ile	Arg
	450					455					460				
Arg	Glu	Asn	Cys	Pro	Ala	Cys	Arg	Tyr	Arg	Lys	Cys	Leu	Gln	Ala	Gly
465					470					475					480
Met	Asn	Leu	Gln	Ala	Arg	Lys	Thr	Lys	Lys	Lys	Ile	Lys	Gly	Ile	Gln
				485					490					495	
Gln	Ala	Thr	Thr	Gly	Val	Ser	Gln	Asn	Thr	Ser	Glu	Asn	Pro	Asn	Lys
			500					505					510		
Thr	Ile	Val	Pro	Ala	Thr	Leu	Pro	Gln	Leu	Thr	Pro	Thr	Leu	Val	Ser
		515					520					525			
Leu	Leu	Glu	Val	Ile	Glu	Pro	Glu	Val	Ile	His	Ser	Gly	Tyr	Asp	Ser
	530					535					540				
Thr	Ser	Pro	Asp	Ser	Thr	Trp	Arg	Ile	Met	Thr	Thr	Leu	Asn	Met	Leu
545					550					555					560
Gly	Gly	Arg	Gln	Val	Ile	Ala	Ala	Val	Lys	Trp	Ala	Lys	Ala	Ile	Pro
				565					570					575	
Gly	Phe	Lys	Asn	Leu	His	Leu	Asp	Asp	Gln	Met	Thr	Leu	Leu	Gln	Tyr
			580					585					590		
Ser	Trp	Met	Phe	Leu	Met	Ala	Phe	Ala	Leu	Gly	Trp	Arg	Ser	Tyr	Lys
		595					600					605			
Gln	Ser	Asn	Gly	Ser	Leu	Leu	Cys	Phe	Ala	Pro	Asp	Leu	Ile	Ile	Asn
	610					615					620				
Glu	Gln	Arg	Met	Ser	Leu	Pro	Trp	Met	Tyr	Asp	Gln	Cys	Arg	Tyr	Met
625					630					635					640

Leu Tyr Val Ser Ser Glu Leu Lys Arg Leu Gln Val Ser Tyr Glu Glu  
645 650 655

Tyr Leu Cys Met Lys Thr Leu Leu Leu Leu Ser Ser Val Pro Lys Glu  
660 665 670

Gly Leu Lys Ser Gln Glu Leu Phe Asp Glu Ile Arg Met Thr Tyr Ile  
675 680 685

Lys Glu Leu Gly Lys Ala Ile Val Lys Arg Glu Gly Asn Ser Ser Gln  
690 695 700

Asn Trp Gln Arg Phe Tyr Gln Leu Thr Lys Leu Leu Asp Ser Leu His  
705 710 715 720

Glu Ile Val Gly Asn Leu Leu Asn Ile Cys Phe Lys Thr Phe Leu Asp  
725 730 735

Lys Thr Met Asn Ile Glu Phe Pro Glu Met Leu Ala Glu Ile Ile Thr  
740 745 750

Asn Gln Leu Pro Lys Tyr Ser Asn Gly Asp Ile Lys Lys Leu Leu Phe  
755 760 765

His Gln Lys  
770

<210> 17  
<211> 777  
<212> PRT  
<213> Saguinus oedipus

<400> 17

Met Asp Ser Lys Glu Ser Leu Thr Pro Gly Lys Glu Glu Asn Pro Ser  
1 5 10 15

Ser Val Leu Thr Gln Glu Arg Gly Asn Val Met Asp Phe Cys Lys Ile  
20 25 30

Leu Arg Gly Gly Ala Thr Leu Lys Val Ser Val Ser Ser Thr Ser Leu  
35 40 45

Ala Ala Ala Ser Gln Ser Asp Ser Lys Gln Gln Arg Leu Leu Val Asp  
 50 55 60

Phe Pro Lys Gly Ser Val Ser Asn Ala Gln Gln Pro Asp Leu Ser Lys  
 65 70 75 80

Ala Val Ser Leu Ser Met Gly Leu Tyr Met Gly Glu Thr Glu Thr Lys  
 85 90 95

Val Met Gly Asn Asp Leu Gly Phe Pro Gln Gln Gly Gln Ile Ser Leu  
 100 105 110

Ser Ser Gly Glu Thr Asp Leu Gln Leu Leu Glu Glu Ser Ile Ala Asn  
 115 120 125

Leu Asn Arg Ser Thr Ser Val Pro Glu Asn Pro Lys Ser Ser Ala Ser  
 130 135 140

Ser Ser Val Ser Ala Ala Pro Lys Glu Lys Glu Phe Pro Lys Thr His  
 145 150 155 160

Ser Asp Val Ser Ser Glu Gln Gln Asn Leu Lys Gly Gln Thr Gly Thr  
 165 170 175

Asn Gly Gly Asn Ala Lys Leu Cys Thr Ala Asp Gln Ser Thr Phe Asp  
 180 185 190

Ile Leu Gln Asp Leu Glu Phe Ser Ser Gly Ser Pro Gly Lys Glu Thr  
 195 200 205

Asn Gln Ser Pro Trp Arg Ser Asp Leu Leu Ile Asp Glu Asn Cys Leu  
 210 215 220

Leu Ser Pro Leu Ala Gly Glu Glu Asp Ser Phe Leu Leu Glu Gly Asn  
 225 230 235 240

Ser Asn Glu Asp Cys Lys Pro Leu Ile Leu Pro Asp Thr Lys Pro Lys  
 245 250 255

Ile Lys Asp Asn Gly Asp Leu Val Leu Ser Ser Ser Ser Asn Val Thr  
 260 265 270

Leu Pro Gln Val Lys Thr Glu Lys Glu Asp Phe Ile Glu Leu Cys Thr

275	280	285
Pro Gly Val Ile Lys Gln Glu Lys Leu Ser Thr Val Tyr Cys Gln Ala 290 295 300		
Ser Phe Pro Gly Ala Asn Ile Ile Gly Asn Lys Met Ser Ala Ile Ser 305 310 315 320		
Ile His Gly Val Ser Thr Ser Gly Gly Gln Met Tyr His Tyr Asp Met 325 330 335		
Asn Thr Ala Ser Leu Ser Gln Gln Gln Asp Gln Lys Pro Ile Phe Asn 340 345 350		
Val Ile Pro Pro Ile Pro Val Gly Ser Glu Asn Trp Asn Arg Cys Gln 355 360 365		
Gly Ser Gly Asp Asp Asn Leu Thr Ser Leu Gly Thr Leu Asn Phe Pro 370 375 380		
Gly Arg Thr Val Phe Ser Asn Gly Tyr Ser Ser Pro Ser Met Arg Pro 385 390 395 400		
Asp Val Ser Ser Pro Pro Ser Ser Ser Thr Ala Thr Thr Gly Pro 405 410 415		
Pro Pro Lys Leu Cys Leu Val Cys Ser Asp Glu Ala Ser Gly Cys His 420 425 430		
Tyr Gly Val Leu Thr Cys Gly Ser Cys Lys Val Phe Phe Lys Arg Ala 435 440 445		
Val Glu Gly Gln His Asn Tyr Leu Cys Ala Gly Arg Asn Asp Cys Ile 450 455 460		
Ile Asp Lys Ile Arg Arg Lys Asn Cys Pro Ala Cys Arg Tyr Arg Lys 465 470 475 480		
Cys Leu Gln Ala Gly Met Asn Leu Glu Ala Arg Lys Thr Lys Lys Lys 485 490 495		
Ile Lys Gly Ile Gln Gln Ala Thr Thr Gly Val Ser Gln Glu Thr Ser 500 505 510		

Glu	Asn	Pro	Ala	Asn	Lys	Thr	Ile	Val	Pro	Ala	Thr	Leu	Pro	Gln	Leu	515	520	525	
Thr	Pro	Thr	Leu	Val	Ser	Leu	Leu	Glu	Val	Ile	Glu	Pro	Glu	Val	Leu	530	535	540	
Tyr	Ala	Gly	Tyr	Asp	Ser	Thr	Val	Pro	Asp	Ser	Thr	Trp	Arg	Ile	Met	545	550	555	560
Thr	Thr	Leu	Asn	Met	Leu	Gly	Gly	Arg	Gln	Val	Ile	Ala	Ala	Val	Lys	565	570	575	
Trp	Ala	Lys	Ala	Ile	Pro	Gly	Phe	Arg	Asn	Leu	His	Leu	Asp	Asp	Gln	580	585	590	
Met	Thr	Leu	Leu	Gln	Tyr	Ser	Trp	Met	Phe	Leu	Met	Ala	Phe	Ala	Leu	595	600	605	
Gly	Trp	Arg	Ser	Tyr	Arg	Gln	Ala	Ser	Ser	Asn	Leu	Leu	Cys	Phe	Ala	610	615	620	
Pro	Asp	Leu	Ile	Ile	Asn	Glu	Gln	Arg	Met	Thr	Leu	Pro	Cys	Met	Tyr	625	630	635	640
Asp	Gln	Cys	Lys	His	Met	Leu	Tyr	Val	Ser	Ser	Glu	Leu	His	Arg	Leu	645	650	655	
Gln	Val	Ser	Tyr	Glu	Glu	Tyr	Leu	Cys	Met	Lys	Thr	Leu	Leu	Leu	Leu	660	665	670	
Ser	Ser	Val	Pro	Lys	Asp	Gly	Leu	Lys	Ser	Gln	Glu	Leu	Phe	Asp	Glu	675	680	685	
Ile	Arg	Met	Thr	Tyr	Ile	Lys	Glu	Leu	Gly	Lys	Ala	Ile	Val	Lys	Arg	690	695	700	
Glu	Gly	Asn	Ser	Ser	Gln	Asn	Trp	Gln	Arg	Phe	Tyr	Gln	Leu	Thr	Lys	705	710	715	720
Leu	Leu	Asp	Ser	Met	His	Glu	Val	Val	Glu	Asn	Leu	Leu	Asn	Tyr	Cys	725	730	735	

Phe Gln Thr Phe Leu Asp Lys Thr Met Ser Ile Glu Phe Pro Glu Met  
740 745 750

Leu Ala Glu Ile Ile Thr Asn Gln Leu Pro Lys Tyr Ser Asn Gly Asn  
755 760 765

Ile Arg Lys Leu Leu Phe His Gln Lys  
770 775

<210> 18  
<211> 777  
<212> PRT  
<213> Aotus nancymaae

<400> 18

Met Asp Ser Lys Glu Ser Leu Thr Pro Gly Lys Glu Glu Asn Pro Ser  
1 5 10 15

Ser Val Leu Thr Gln Glu Arg Gly Asn Val Met Asp Phe Ser Lys Ile  
20 25 30

Leu Arg Gly Gly Ala Thr Leu Lys Val Ser Val Ser Ser Thr Ser Leu  
35 40 45

Ala Ala Ala Ser Gln Ser Asp Ser Lys Gln Gln Arg Leu Leu Val Asp  
50 55 60

Phe Pro Lys Gly Ser Val Ser Asn Ala Gln Gln Pro Asp Leu Ser Lys  
65 70 75 80

Ala Val Ser Leu Ser Met Gly Leu Tyr Met Gly Glu Thr Glu Thr Lys  
85 90 95

Val Met Gly Asn Asp Leu Gly Phe Pro Gln Gln Gly Gln Ile Ser Leu  
100 105 110

Ser Ser Gly Glu Thr Asp Leu Gln Leu Leu Glu Glu Ser Ile Ala Asn  
115 120 125

Leu Asn Arg Ser Thr Ser Val Pro Glu Asn Pro Lys Ser Ser Ala Ser  
130 135 140

Ser Ser Val Ser Ala Ala Pro Lys Glu Lys Glu Phe Pro Lys Thr His

145		150		155		160
Ser Asp Val Ser Ser Glu Gln Gln Asn Leu Lys Gly Gln Thr Gly Thr						
		165		170		175
Asn Gly Gly Asn Val Lys Leu Tyr Thr Ala Asp Gln Ser Thr Phe Asp						
		180		185		190
Ile Leu Gln Asp Leu Glu Phe Ser Ser Gly Ser Pro Gly Lys Glu Thr						
		195		200		205
Asn Gln Ser Pro Trp Arg Ser Asp Leu Leu Ile Asp Glu Asn Cys Leu						
		210		215		220
Leu Ser Pro Leu Ala Gly Glu Glu Asp Ser Phe Leu Leu Glu Gly Asn						
		225		230		240
Ser Asn Glu Asp Cys Lys Pro Leu Ile Leu Pro Asp Thr Lys Pro Lys						
		245		250		255
Ile Lys Asp Asn Gly Asp Leu Val Leu Ser Ser Ser Ser Asn Val Thr						
		260		265		270
Leu Pro Gln Val Lys Thr Glu Lys Glu Asp Phe Ile Glu Leu Cys Thr						
		275		280		285
Pro Gly Val Ile Lys Gln Glu Lys Leu Ser Thr Val Tyr Cys Gln Ala						
		290		295		300
Ser Phe Pro Gly Ala Asn Val Ile Gly Asn Lys Met Ser Ala Ile Ser						
		305		310		315
Ile His Gly Val Ser Thr Ser Gly Gly Gln Met Tyr His Tyr Asp Met						
		325		330		335
Asn Thr Ala Ser Leu Ser Gln Gln Gln Asp Gln Lys Pro Ile Phe Asn						
		340		345		350
Val Ile Pro Pro Ile Pro Val Gly Ser Glu Asn Trp Asn Arg Cys Gln						
		355		360		365
Gly Ser Gly Asp Asp Asn Leu Thr Ser Leu Gly Thr Leu Asn Phe Pro						
		370		375		380



Gly	Arg	Thr	Val	Phe	Ser	Asn	Gly	Tyr	Ser	Ser	Pro	Ser	Met	Arg	Pro	385	390	395	400
Asp	Val	Ser	Ser	Pro	Pro	Ser	Ser	Ser	Ser	Thr	Ala	Thr	Thr	Gly	Pro	405	410	415	
Pro	Pro	Lys	Leu	Cys	Leu	Val	Cys	Ser	Asp	Glu	Ala	Ser	Gly	Cys	His	420	425	430	
Tyr	Gly	Val	Leu	Thr	Cys	Gly	Ser	Cys	Lys	Val	Phe	Phe	Lys	Arg	Ala	435	440	445	
Val	Glu	Gly	Gln	His	Asn	Tyr	Leu	Cys	Ala	Gly	Arg	Asn	Asp	Cys	Ile	450	455	460	
Ile	Asp	Lys	Ile	Arg	Arg	Lys	Asn	Cys	Pro	Ala	Cys	Arg	Tyr	Arg	Lys	465	470	475	480
Cys	Leu	Gln	Ala	Gly	Met	Asn	Leu	Glu	Ala	Arg	Lys	Thr	Lys	Lys	Lys	485	490	495	
Ile	Lys	Gly	Ile	Gln	Gln	Ala	Thr	Thr	Gly	Val	Ser	Gln	Glu	Thr	Ser	500	505	510	
Glu	Asn	Pro	Ala	Asn	Lys	Thr	Ile	Val	Pro	Ala	Thr	Leu	Pro	Gln	Leu	515	520	525	
Thr	Pro	Thr	Leu	Val	Ser	Leu	Leu	Glu	Val	Ile	Glu	Pro	Glu	Val	Leu	530	535	540	
Tyr	Ala	Gly	Tyr	Asp	Ser	Thr	Val	Pro	Asp	Ser	Thr	Trp	Arg	Ile	Met	545	550	555	560
Thr	Thr	Leu	Asn	Met	Leu	Gly	Gly	Arg	Gln	Val	Ile	Ala	Ala	Val	Lys	565	570	575	
Trp	Ala	Lys	Ala	Ile	Pro	Gly	Phe	Arg	Asn	Leu	His	Leu	Asp	Asp	Gln	580	585	590	
Met	Thr	Leu	Leu	Gln	Tyr	Ser	Trp	Met	Phe	Leu	Met	Ala	Phe	Ala	Leu	595	600	605	

Gly Trp Arg Ser Tyr Arg Gln Ala Ser Ser Asn Leu Leu Cys Phe Ala  
610 615 620

Pro Asp Leu Ile Ile Asn Glu Gln Arg Met Thr Leu Pro Cys Met Tyr  
625 630 635 640

Asp Gln Cys Lys His Met Leu Tyr Val Ser Ser Glu Leu His Arg Leu  
645 650 655

Gln Val Ser Tyr Glu Glu Tyr Leu Cys Met Lys Thr Leu Leu Leu Leu  
660 665 670

Ser Ser Val Pro Lys Asp Gly Leu Lys Ser Gln Glu Leu Phe Asp Glu  
675 680 685

Ile Arg Met Thr Tyr Ile Lys Glu Leu Gly Lys Ala Ile Val Lys Arg  
690 695 700

Glu Gly Asn Ser Ser Gln Asn Trp Gln Arg Phe Tyr Gln Leu Thr Lys  
705 710 715 720

Leu Leu Asp Ser Met His Glu Val Val Glu Asn Leu Leu Asn Tyr Cys  
725 730 735

Phe Gln Thr Phe Leu Asp Lys Thr Met Ser Ile Glu Phe Pro Glu Met  
740 745 750

Leu Ala Glu Ile Ile Thr Asn Gln Leu Pro Lys Tyr Ser Asn Gly Asn  
755 760 765

Ile Lys Lys Leu Leu Phe His Gln Lys  
770 775

<210> 19  
<211> 795  
<212> PRT  
<213> Rattus norvegicus

<400> 19

Met Asp Ser Lys Glu Ser Leu Ala Pro Pro Gly Arg Asp Glu Val Pro  
1 5 10 15

Gly Ser Leu Leu Gly Gln Gly Arg Gly Ser Val Met Asp Phe Tyr Lys

20					25					30					
Ser	Leu	Arg	Gly	Gly	Ala	Thr	Val	Lys	Val	Ser	Ala	Ser	Ser	Pro	Ser
		35					40					45			
Val	Ala	Ala	Ala	Ser	Gln	Ala	Asp	Ser	Lys	Gln	Gln	Arg	Ile	Leu	Leu
	50					55					60				
Asp	Phe	Ser	Lys	Gly	Ser	Thr	Ser	Asn	Val	Gln	Gln	Arg	Gln	Gln	Gln
65					70					75					80
Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln
				85					90					95	
Pro	Gly	Leu	Ser	Lys	Ala	Val	Ser	Leu	Ser	Met	Gly	Leu	Tyr	Met	Gly
			100					105					110		
Glu	Thr	Glu	Thr	Lys	Val	Met	Gly	Asn	Asp	Leu	Gly	Tyr	Pro	Gln	Gln
		115					120					125			
Gly	Gln	Leu	Gly	Leu	Ser	Ser	Gly	Glu	Thr	Asp	Phe	Arg	Leu	Leu	Glu
	130					135					140				
Glu	Ser	Ile	Ala	Asn	Leu	Asn	Arg	Ser	Thr	Ser	Val	Pro	Glu	Asn	Pro
145					150					155					160
Lys	Ser	Ser	Thr	Ser	Ala	Thr	Gly	Cys	Ala	Thr	Pro	Thr	Glu	Lys	Glu
				165					170					175	
Phe	Pro	Lys	Thr	His	Ser	Asp	Ala	Ser	Ser	Glu	Gln	Gln	Asn	Arg	Lys
			180					185					190		
Ser	Gln	Thr	Gly	Thr	Asn	Gly	Gly	Ser	Val	Lys	Leu	Tyr	Pro	Thr	Asp
		195					200					205			
Gln	Ser	Thr	Phe	Asp	Leu	Leu	Lys	Asp	Leu	Glu	Phe	Ser	Ala	Gly	Ser
	210					215					220				
Pro	Ser	Lys	Asp	Thr	Asn	Glu	Ser	Pro	Trp	Arg	Ser	Asp	Leu	Leu	Ile
225					230					235					240
Asp	Glu	Asn	Leu	Leu	Ser	Pro	Leu	Ala	Gly	Glu	Asp	Asp	Pro	Phe	Leu
			245						250					255	

Leu	Glu	Gly	Asn	Thr	Asn	Glu	Asp	Cys	Lys	Pro	Leu	Ile	Leu	Pro	Asp	
			260					265					270			
Thr	Lys	Pro	Lys	Ile	Lys	Asp	Thr	Gly	Asp	Thr	Ile	Leu	Ser	Ser	Pro	
		275					280					285				
Ser	Ser	Val	Ala	Leu	Pro	Gln	Val	Lys	Thr	Glu	Lys	Asp	Asp	Phe	Ile	
	290					295					300					
Glu	Leu	Cys	Thr	Pro	Gly	Val	Ile	Lys	Gln	Glu	Lys	Leu	Gly	Pro	Val	
305					310					315					320	
Tyr	Cys	Gln	Ala	Ser	Phe	Ser	Gly	Thr	Asn	Ile	Ile	Gly	Asn	Lys	Met	
				325					330					335		
Ser	Ala	Ile	Ser	Val	His	Gly	Val	Ser	Thr	Ser	Gly	Gly	Gln	Met	Tyr	
			340					345					350			
His	Tyr	Asp	Met	Asn	Thr	Ala	Ser	Leu	Ser	Gln	Gln	Gln	Asp	Gln	Lys	
		355					360					365				
Pro	Val	Phe	Asn	Val	Ile	Pro	Pro	Ile	Pro	Val	Gly	Ser	Glu	Asn	Trp	
	370					375					380					
Asn	Arg	Cys	Gln	Gly	Ser	Gly	Glu	Asp	Ser	Leu	Thr	Ser	Leu	Gly	Ala	
385					390					395					400	
Leu	Asn	Phe	Pro	Gly	Arg	Ser	Val	Phe	Ser	Asn	Gly	Tyr	Ser	Ser	Pro	
				405					410						415	
Gly	Met	Arg	Pro	Asp	Val	Ser	Ser	Pro	Pro	Ser	Ser	Ser	Ser	Ala	Ala	
			420					425					430			
Thr	Gly	Pro	Pro	Pro	Lys	Leu	Cys	Leu	Val	Cys	Ser	Asp	Glu	Ala	Ser	
		435					440					445				
Gly	Cys	His	Tyr	Gly	Val	Leu	Thr	Cys	Gly	Ser	Cys	Lys	Val	Phe	Phe	
	450					455					460					
Lys	Arg	Ala	Val	Glu	Gly	Gln	His	Asn	Tyr	Leu	Cys	Ala	Gly	Arg	Asn	
465					470					475					480	

Asp Cys Ile Ile Asp Lys Ile Arg Arg Lys Asn Cys Pro Ala Cys Arg  
 485 490 495

Tyr Arg Lys Cys Leu Gln Ala Gly Met Asn Leu Glu Ala Arg Lys Thr  
 500 505 510

Lys Lys Lys Ile Lys Gly Ile Gln Gln Ala Thr Ala Gly Val Ser Gln  
 515 520 525

Asp Thr Ser Glu Asn Pro Asn Lys Thr Ile Val Pro Ala Ala Leu Pro  
 530 535 540

Gln Leu Thr Pro Thr Leu Val Ser Leu Leu Glu Val Ile Glu Pro Glu  
 545 550 555 560

Val Leu Tyr Ala Gly Tyr Asp Ser Ser Val Pro Asp Ser Ala Trp Arg  
 565 570 575

Ile Met Thr Thr Leu Asn Met Leu Gly Gly Arg Gln Val Ile Ala Ala  
 580 585 590

Val Lys Trp Ala Lys Ala Ile Leu Gly Leu Arg Asn Leu His Leu Asp  
 595 600 605

Asp Gln Met Thr Leu Leu Gln Tyr Ser Trp Met Phe Leu Met Ala Phe  
 610 615 620

Ala Leu Gly Trp Arg Ser Tyr Arg Gln Ser Ser Gly Asn Leu Leu Cys  
 625 630 635 640

Phe Ala Pro Asp Leu Ile Ile Asn Glu Gln Arg Met Ser Leu Pro Cys  
 645 650 655

Met Tyr Asp Gln Cys Lys His Met Leu Phe Val Ser Ser Glu Leu Gln  
 660 665 670

Arg Leu Gln Val Ser Tyr Glu Glu Tyr Leu Cys Met Lys Thr Leu Leu  
 675 680 685

Leu Leu Ser Ser Val Pro Lys Glu Gly Leu Lys Ser Gln Glu Leu Phe  
 690 695 700

Asp Glu Ile Arg Met Thr Tyr Ile Lys Glu Leu Gly Lys Ala Ile Val  
705 710 715 720

Lys Arg Glu Gly Asn Ser Ser Gln Asn Trp Gln Arg Phe Tyr Gln Leu  
725 730 735

Thr Lys Leu Leu Asp Ser Met His Glu Val Val Glu Asn Leu Leu Thr  
740 745 750

Tyr Cys Phe Gln Thr Phe Leu Asp Lys Thr Met Ser Ile Glu Phe Pro  
755 760 765

Glu Met Leu Ala Glu Ile Ile Thr Asn Gln Ile Pro Lys Tyr Ser Asn  
770 775 780

Gly Asn Ile Lys Lys Leu Leu Phe His Gln Lys  
785 790 795

<210> 20  
<211> 783  
<212> PRT  
<213> Mus musculus

<400> 20

Met Asp Ser Lys Glu Ser Leu Ala Pro Pro Gly Arg Asp Glu Val Pro  
1 5 10 15

Ser Ser Leu Leu Gly Arg Gly Arg Gly Ser Val Met Asp Leu Tyr Lys  
20 25 30

Thr Leu Arg Gly Gly Ala Thr Val Lys Val Ser Ala Ser Ser Pro Ser  
35 40 45

Val Ala Ala Ala Ser Gln Ala Asp Ser Lys Gln Gln Arg Ile Leu Leu  
50 55 60

Asp Phe Ser Lys Gly Ser Ala Ser Asn Ala Gln Gln Gln Gln Gln  
65 70 75 80

Gln Gln Pro Gln Pro Asp Leu Ser Lys Ala Val Ser Leu Ser Met Gly  
85 90 95

Leu Tyr Met Gly Glu Thr Glu Thr Lys Val Met Gly Asn Asp Leu Gly  
100 105 110

Tyr	Pro	Gln	Gln	Gly	Gln	Leu	Gly	Leu	Ser	Ser	Gly	Glu	Thr	Asp	Phe	115	120	125
Arg	Leu	Leu	Glu	Glu	Ser	Ile	Ala	Asn	Leu	Asn	Arg	Ser	Thr	Ser	Arg	130	135	140
Pro	Glu	Asn	Pro	Lys	Ser	Ser	Thr	Pro	Ala	Ala	Gly	Cys	Ala	Thr	Pro	145	150	155
Thr	Glu	Lys	Glu	Phe	Pro	Gln	Thr	His	Ser	Asp	Pro	Ser	Ser	Glu	Gln	165	170	175
Gln	Asn	Arg	Lys	Ser	Gln	Pro	Gly	Thr	Asn	Gly	Gly	Ser	Val	Lys	Leu	180	185	190
Tyr	Thr	Thr	Asp	Gln	Ser	Thr	Phe	Asp	Ile	Leu	Gln	Asp	Leu	Glu	Phe	195	200	205
Ser	Ala	Gly	Ser	Pro	Gly	Lys	Glu	Thr	Asn	Glu	Ser	Pro	Trp	Arg	Ser	210	215	220
Asp	Leu	Leu	Ile	Asp	Glu	Asn	Leu	Leu	Ser	Pro	Leu	Ala	Gly	Glu	Asp	225	230	235
Asp	Pro	Phe	Leu	Leu	Glu	Gly	Asp	Val	Asn	Glu	Asp	Cys	Lys	Pro	Leu	245	250	255
Ile	Leu	Pro	Asp	Thr	Lys	Pro	Lys	Ile	Gln	Asp	Thr	Gly	Asp	Thr	Ile	260	265	270
Leu	Ser	Ser	Pro	Ser	Ser	Val	Ala	Leu	Pro	Gln	Val	Lys	Thr	Glu	Lys	275	280	285
Asp	Asp	Phe	Ile	Glu	Leu	Cys	Thr	Pro	Gly	Val	Ile	Lys	Gln	Glu	Lys	290	295	300
Leu	Gly	Pro	Val	Tyr	Cys	Gln	Ala	Ser	Phe	Ser	Gly	Thr	Asn	Ile	Ile	305	310	315
Gly	Asn	Lys	Met	Ser	Ala	Ile	Ser	Val	His	Gly	Val	Ser	Thr	Ser	Gly	325	330	335

Gly	Gln	Met	Tyr	His	Tyr	Asp	Met	Asn	Thr	Ala	Ser	Leu	Ser	Gln	Gln			
			340					345					350					
Gln	Asp	Gln	Lys	Pro	Val	Phe	Asn	Val	Ile	Pro	Pro	Ile	Pro	Val	Gly			
		355					360					365						
Ser	Glu	Asn	Trp	Asn	Arg	Cys	Gln	Gly	Ser	Gly	Glu	Asp	Asn	Leu	Thr			
	370					375					380							
Ser	Leu	Gly	Ala	Met	Asn	Phe	Ala	Gly	Arg	Ser	Val	Phe	Ser	Asn	Gly			
385					390					395					400			
Tyr	Ser	Ser	Pro	Gly	Met	Arg	Pro	Asp	Val	Ser	Ser	Pro	Pro	Ser	Ser			
				405					410					415				
Ser	Ser	Thr	Ala	Thr	Gly	Pro	Pro	Pro	Lys	Leu	Cys	Leu	Val	Cys	Ser			
			420					425					430					
Asp	Glu	Ala	Ser	Val	Cys	His	Tyr	Gly	Val	Leu	Thr	Cys	Gly	Ser	Cys			
		435					440					445						
Lys	Val	Phe	Phe	Lys	Arg	Ala	Val	Glu	Gly	Gln	His	Asn	Tyr	Leu	Cys			
	450					455					460							
Ala	Gly	Arg	Asn	Asp	Cys	Ile	Ile	Asp	Lys	Ile	Arg	Arg	Lys	Asn	Cys			
465					470					475					480			
Pro	Ala	Cys	Arg	Tyr	Arg	Lys	Cys	Leu	Gln	Ala	Gly	Met	Asn	Leu	Glu			
				485					490					495				
Ala	Arg	Lys	Thr	Lys	Lys	Lys	Ile	Lys	Gly	Ile	Gln	Gln	Ala	Thr	Ala			
			500					505					510					
Gly	Val	Ser	Gln	Asp	Thr	Ser	Glu	Asn	Ala	Asn	Lys	Thr	Ile	Val	Pro			
		515					520					525						
Ala	Ala	Leu	Pro	Gln	Leu	Thr	Pro	Thr	Leu	Val	Ser	Leu	Leu	Glu	Val			
	530					535					540							
Ile	Glu	Pro	Glu	Val	Leu	Tyr	Ala	Gly	Tyr	Asp	Ser	Ser	Val	Pro	Asp			
545					550					555					560			



Ser Ala Trp Arg Ile Met Thr Thr Leu Asn Met Leu Gly Gly Arg Gln  
 565 570 575

Val Ile Ala Ala Val Lys Trp Ala Lys Ala Ile Pro Gly Phe Arg Asn  
 580 585 590

Leu His Leu Asp Asp Gln Met Thr Leu Leu Gln Tyr Ser Trp Met Phe  
 595 600 605

Leu Met Ala Phe Ala Leu Gly Trp Arg Ser Tyr Arg Gln Ala Ser Gly  
 610 615 620

Asn Leu Leu Cys Phe Ala Pro Asp Leu Ile Ile Asn Glu Gln Arg Met  
 625 630 635 640

Thr Leu Pro Cys Met Tyr Asp Gln Cys Lys His Met Leu Phe Ile Ser  
 645 650 655

Thr Glu Leu Gln Arg Leu Gln Val Ser Tyr Glu Glu Tyr Leu Cys Met  
 660 665 670

Lys Thr Leu Leu Leu Leu Ser Ser Val Pro Lys Glu Gly Leu Lys Ser  
 675 680 685

Gln Glu Leu Phe Asp Glu Ile Arg Met Thr Tyr Ile Lys Glu Leu Gly  
 690 695 700

Lys Ala Ile Val Lys Arg Glu Gly Asn Ser Ser Gln Asn Trp Gln Arg  
 705 710 715 720

Phe Tyr Gln Leu Thr Lys Leu Leu Asp Ser Met His Asp Val Val Glu  
 725 730 735

Asn Leu Leu Ser Tyr Cys Phe Gln Thr Phe Leu Asp Lys Ser Met Ser  
 740 745 750

Ile Glu Phe Pro Glu Met Leu Ala Glu Ile Ile Thr Asn Gln Ile Pro  
 755 760 765

Lys Tyr Ser Asn Gly Asn Ile Lys Lys Leu Leu Phe His Gln Lys  
 770 775 780

<210> 21

<211> 777  
 <212> PRT  
 <213> Homo sapiens

<400> 21

Met Asp Ser Lys Glu Ser Leu Thr Pro Gly Arg Glu Glu Asn Pro Ser  
 1 5 10 15

Ser Val Leu Ala Gln Glu Arg Gly Asp Val Met Asp Phe Tyr Lys Thr  
 20 25 30

Leu Arg Gly Gly Ala Thr Val Lys Val Ser Ala Ser Ser Pro Ser Leu  
 35 40 45

Ala Val Ala Ser Gln Ser Asp Ser Lys Gln Arg Arg Leu Leu Val Asp  
 50 55 60

Phe Pro Lys Gly Ser Val Ser Asn Ala Gln Gln Pro Asp Leu Ser Lys  
 65 70 75 80

Ala Val Ser Leu Ser Met Gly Leu Tyr Met Gly Glu Thr Glu Thr Lys  
 85 90 95

Val Met Gly Asn Asp Leu Gly Phe Pro Gln Gln Gly Gln Ile Ser Leu  
 100 105 110

Ser Ser Gly Glu Thr Asp Leu Lys Leu Leu Glu Glu Ser Ile Ala Asn  
 115 120 125

Leu Asn Arg Ser Thr Ser Val Pro Glu Asn Pro Lys Ser Ser Ala Ser  
 130 135 140

Thr Ala Val Ser Ala Ala Pro Thr Glu Lys Glu Phe Pro Lys Thr His  
 145 150 155 160

Ser Asp Val Ser Ser Glu Gln Gln His Leu Lys Gly Gln Thr Gly Thr  
 165 170 175

Asn Gly Gly Asn Val Lys Leu Tyr Thr Thr Asp Gln Ser Thr Phe Asp  
 180 185 190

Ile Leu Gln Asp Leu Glu Phe Ser Ser Gly Ser Pro Gly Lys Glu Thr  
 195 200 205

Asn	Glu	Ser	Pro	Trp	Arg	Ser	Asp	Leu	Leu	Ile	Asp	Glu	Asn	Cys	Leu	210	215	220	
Leu	Ser	Pro	Leu	Ala	Gly	Glu	Asp	Asp	Ser	Phe	Leu	Leu	Glu	Gly	Asn	225	230	235	240
Ser	Asn	Glu	Asp	Cys	Lys	Pro	Leu	Ile	Leu	Pro	Asp	Thr	Lys	Pro	Lys	245	250	255	
Ile	Lys	Asp	Asn	Gly	Asp	Leu	Val	Leu	Ser	Ser	Pro	Ser	Asn	Val	Thr	260	265	270	
Leu	Pro	Gln	Val	Lys	Thr	Glu	Lys	Glu	Asp	Phe	Ile	Glu	Leu	Cys	Thr	275	280	285	
Pro	Gly	Val	Ile	Lys	Gln	Glu	Lys	Leu	Gly	Thr	Val	Tyr	Cys	Gln	Ala	290	295	300	
Ser	Phe	Pro	Gly	Ala	Asn	Ile	Ile	Gly	Asn	Lys	Met	Ser	Ala	Ile	Ser	305	310	315	320
Val	His	Gly	Val	Ser	Thr	Ser	Gly	Gly	Gln	Met	Tyr	His	Tyr	Asp	Met	325	330	335	
Asn	Thr	Ala	Ser	Leu	Ser	Gln	Gln	Gln	Asp	Gln	Lys	Pro	Ile	Phe	Asn	340	345	350	
Val	Ile	Pro	Pro	Ile	Pro	Val	Gly	Ser	Glu	Asn	Trp	Asn	Arg	Cys	Gln	355	360	365	
Gly	Ser	Gly	Asp	Asp	Asn	Leu	Thr	Ser	Leu	Gly	Thr	Leu	Asn	Phe	Pro	370	375	380	
Gly	Arg	Thr	Val	Phe	Ser	Asn	Gly	Tyr	Ser	Ser	Pro	Ser	Met	Arg	Pro	385	390	395	400
Asp	Val	Ser	Ser	Pro	Pro	Ser	Ser	Ser	Ser	Thr	Ala	Thr	Thr	Gly	Pro	405	410	415	
Pro	Pro	Lys	Leu	Cys	Leu	Val	Cys	Ser	Asp	Glu	Ala	Ser	Gly	Cys	His	420	425	430	

Tyr Gly Val Leu Thr Cys Gly Ser Cys Lys Val Phe Phe Lys Arg Ala  
 435 440 445

Val Glu Gly Gln His Asn Tyr Leu Cys Ala Gly Arg Asn Asp Cys Ile  
 450 455 460

Ile Asp Lys Ile Arg Arg Lys Asn Cys Pro Ala Cys Arg Tyr Arg Lys  
 465 470 475 480

Cys Leu Gln Ala Gly Met Asn Leu Glu Ala Arg Lys Thr Lys Lys Lys  
 485 490 495

Ile Lys Gly Ile Gln Gln Ala Thr Thr Gly Val Ser Gln Glu Thr Ser  
 500 505 510

Glu Asn Pro Gly Asn Lys Thr Ile Val Pro Ala Thr Leu Pro Gln Leu  
 515 520 525

Thr Pro Thr Leu Val Ser Leu Leu Glu Val Ile Glu Pro Glu Val Leu  
 530 535 540

Tyr Ala Gly Tyr Asp Ser Ser Val Pro Asp Ser Thr Trp Arg Ile Met  
 545 550 555 560

Thr Thr Leu Asn Met Leu Gly Gly Arg Gln Val Ile Ala Ala Val Lys  
 565 570 575

Trp Ala Lys Ala Ile Pro Gly Phe Arg Asn Leu His Leu Asp Asp Gln  
 580 585 590

Met Thr Leu Leu Gln Tyr Ser Trp Met Phe Leu Met Ala Phe Ala Leu  
 595 600 605

Gly Trp Arg Ser Tyr Arg Gln Ser Ser Ala Asn Leu Leu Cys Phe Ala  
 610 615 620

Pro Asp Leu Ile Ile Asn Glu Gln Arg Met Thr Leu Pro Cys Met Tyr  
 625 630 635 640

Asp Gln Cys Lys His Met Leu Tyr Val Ser Ser Glu Leu His Arg Leu  
 645 650 655

Gln Val Ser Tyr Glu Glu Tyr Leu Cys Met Lys Thr Leu Leu Leu Leu

660	665	670
Ser Ser Val Pro Lys Asp Gly Leu Lys Ser Gln Glu Leu Phe Asp Glu		
675	680	685
Ile Arg Met Thr Tyr Ile Lys Glu Leu Gly Lys Ala Ile Val Lys Arg		
690	695	700
Glu Gly Asn Ser Ser Gln Asn Trp Gln Arg Phe Tyr Gln Leu Thr Lys		
705	710	715
Leu Leu Asp Ser Met His Glu Val Val Glu Asn Leu Leu Asn Tyr Cys		
	725	730
Phe Gln Thr Phe Leu Asp Lys Thr Met Ser Ile Glu Phe Pro Glu Met		
	740	745
Leu Ala Glu Ile Ile Thr Asn Gln Ile Pro Lys Tyr Ser Asn Gly Asn		
755	760	765
Ile Lys Lys Leu Leu Phe His Gln Lys		
770	775	